CLAIMS

Therefore, having thus described the invention, at least the following is claimed:

1   1.   A system which compensates captured images comprising:

2   a photosensor that captures a nonstrobed image under an ambient lighting

3   condition and captures a strobed image illuminated with supplemental illumination;

4   an illumination source actuated to provide the supplemental illumination; and

5   a processor

6   configured to generate a strobed image data corresponding to the

7   strobed image and a nonstrobed image data corresponding to the nonstrobed

8   image,

9   configured to white balance compensate the strobed image data and the

10   nonstrobed image data using a first white balance compensation value

11   corresponding to the supplemental illumination,

12   configured to determine a difference between the strobed image data

13   and the nonstrobed image data, each data compensated with the first white

14   balance compensation value,

15   configured to white balance compensate the nonstrobed image data

16   using a second white balance compensation value corresponding to the

17   ambient lighting conditions, and

18   configured to add the difference to the nonstrobed image data

19   compensated using the second white balance compensation.

1   2.   The system of claim 1, wherein the supplemental illumination

2   comprises a flash device.

1   3.   The system of claim 1, wherein the supplemental illumination

2   comprises a strobe.

1   4.   The system of claim 1, wherein the supplemental illumination

2   comprises a remote strobe.

1   5.   The system of claim 1, wherein the system is a digital camera.

1   6.   A method for compensating captured images, the method comprising

2 the steps of:

3   white balance compensating a strobed image data and a nonstrobed image data

4 using a first white balance compensation value corresponding to supplemental

5 illumination provided by a supplemental illumination source;

6   determining a difference between the strobed image data compensated with the

7 first white balance compensation value and the nonstrobed image data compensated

8 with the first white balance compensation value;

9   white balance compensating the nonstrobed image data using a second white

10 balance compensation value corresponding to ambient light; and

11   combining the difference to the nonstrobed image white balance compensated

12 using the second white balance compensation value.

1   7.   The method of claim 6, further comprising the step of generating a

2 compensated image data corresponding to an image with dual white balance

3 compensation.

1   8.   The method of claim 6, further comprising the steps of:

2   capturing the nonstrobed image without the supplemental illumination; and

3   capturing the strobed image with the supplemental illumination.

1   9.   The method of claim 8, wherein the step of capturing is performed with

2 an image capture device.

1   10.   The method of claim 8, further comprising the steps of:

2   generating the strobed image data from the strobed image; and

3   generating the nonstrobed image data from the strobed image.

1   11.   The method of claim 8, further comprising the step of providing the

2 supplemental illumination when the strobed image is captured.

1   12.   The method of claim 11, wherein the step of providing the
2   supplemental illumination further comprises the step of actuating a flash device.

1   13.   The method of claim 11, wherein the step of providing the
2   supplemental illumination further comprises the step of actuating a strobe.

1   14.   The method of claim 11, wherein the step of capturing further
2   comprises the steps of:
3   first capturing the strobed image; and
4   then capturing the nonstrobed image.

1   15.   The method of claim 11, wherein the step of capturing further
2   comprises the steps of:
3   first capturing the nonstrobed image; and
4   then capturing the strobed image.

1   16.   The method of claim 11, wherein the step of capturing is performed
2   with a sufficiently short duration of time between the capture of the strobed image and
3   the nonstrobed image such that when the step of determining the difference results in
4   no discernable image distortion caused by movement of at least one object.

1   17.   The method of claim 6, further comprising the step of receiving the
2   strobed image data and the nonstrobed image data from a memory.

1   18.   The method of claim 6, further comprising the step of specifying the
2   first white balance compensation value corresponding to the supplemental
3   illumination.

1   19.   The method of claim 6, further comprising the step of specifying the
2   second white balance compensation value corresponding to the ambient light.

1   20.   The method of claim 6, further comprising the steps of:

2   analyzing an ambient lighting condition; and

3   selecting the second white balance compensation value corresponding to the

4   ambient lighting condition.

1   21.   The method of claim 6, further comprising the steps of:

2   analyzing a supplemental illumination condition; and

3   selecting the first white balance compensation value corresponding to the

4   supplemental illumination condition provided by the supplemental illumination

5   source.

1   22.   The method of claim 6, further comprising the step of specifying the

2   second white balance compensation value corresponding to illumination provided by

3   another illumination source.

1   23.   The method of claim 6, further comprising the step of specifying the

2   first white balance compensation value corresponding to illumination provided by the

3   supplemental illumination source.

1   24.   The method of claim 6, wherein the step of determining a difference

2   further comprises the step of scaling the nonstrobed image data by the ratio of a

3   strobed image exposure time to a nonstrobed image exposure time.

1   25.   A system for compensating images, comprising:

2   means for white balance compensating a strobed image data and a nonstrobed

3 image data using a first white balance compensation value corresponding to

4 supplemental illumination provided by a supplemental illumination source;

5   means for white balance compensating the nonstrobed image data using a

6 second white balance compensation value;

7   means for determining a difference between the strobed image data and the

8 nonstrobed image data compensated with the first white balance compensation value;

9 and

10   means for combining the difference to the nonstrobed image data compensated

11 using the second white balance compensation value.

1   26.   The system of claim 25, further comprising means for capturing a

2 strobed image corresponding to the strobed image data and capturing a nonstrobed

3 image corresponding to the nonstrobed image data.

1   27.   A computer-readable medium having a program for compensating

2 images, the program comprising logic configured to perform the steps of:

3   receiving data corresponding to a strobed image data and a nonstrobed image

4 data;

5   white balance compensating the strobed image data and the nonstrobed image

6 data using a white balance compensation value corresponding to supplemental

7 illumination provided by a supplemental illumination source;

8   determining a difference between the compensated strobed image data and the

9 compensated nonstrobed image data;

10   white balance compensating the nonstrobed image data using a second white

11 balance compensation value corresponding to an ambient lighting condition; and

12   combining the difference to the nonstrobed image data compensated using the

13 second white balance compensation value.

1   28.   A method for compensating captured images, the method comprising

2   the steps of:

3   determining a difference between a strobed image data and a nonstrobed image

4   data;

5   white balance compensating the difference using a first white balance

6   compensation value corresponding to supplemental illumination provided by a

7   supplemental illumination source;

8   white balance compensating the nonstrobed image data using a second white

9   balance compensation value corresponding to ambient light; and

10   combining the difference to the nonstrobed image white balance compensated

11   using the second white balance compensation value.

1   29.   The method of claim 28, further comprising the steps of:

2   capturing a strobed image with the supplemental illumination;

3   generating the strobed image data from the strobed image;

4   capturing a nonstrobed image without the supplemental illumination; and

5   generating the nonstrobed image data from the strobed image.